Initial packing often controls bleeding temporarily for orderly assessment of the location and extent of bleeding. Fortunately, most liver injuries are minor and respond to simple suture methods and adequate drainage.

Clamping of the portal triad (Pringle maneuver), isolation of the intrapericardial or abdominal vena cava, subdiaphragmatic aortic clamping and intracaval shunts are methods sometimes useful in gaining temporary hemostasis. Under certain conditions even prolonged packing with subsequent removal has been useful in the surgical armamentarium.

The place of hepatic artery ligation for the control of hemorrhage has not been settled. In Mays' experience, hepatic artery ligation has been uniformly well tolerated. Others report recurrent bleeding and hepatic dysfunction after its use. In selected patients, ligation should be given careful consideration as an alternative to major hepatic lobectomy.

In these cases careful supportive postoperative management directed to the prevention of multiple organ failure is required. DON R. MILLER, MD

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Peritoneoscopy in Gastrointestinal Surgical Operation

PERITONEOSCOPY is being rediscovered by surgical gastroenterologists. Although widely used in Europe, and in this country by gynecologists, peritoneoscopy (laparoscopy) in gastrointestinal surgery is not widely appreciated.

Laparoscopy is the endoscopic examination of the peritoneal cavity and its contents after the induction of pneumoperitoneum. By visualization, indirect palpation and tissue biopsy studies, open laparotomy can be avoided in approximately 50 percent of patients for whom an operation has been indicated because of obscure diagnosis or possible intraabdominal trauma.

The potential application and benefits of peritoneoscopy are immediately apparent to practicing clinicians. These include elderly debilitated patients with suspected carcinomatosis; patients with fever of unknown origin, intraabdominal masses or jaundice of cryptic origin, and trauma victims with equivocal signs of intraabdominal injury—to name only a few.

Gastrointestinal surgeons have sometimes been reluctant to accept new modalities for diagnosis and treatment. In many ways this is a laudable posture at a time when the proliferation of new tests and therapies is escalating the cost of health care delivery without documented benefit to patients. In the experience of this author, however, peritoneoscopy can avoid many costly indirect diagnostic examinations and potentially hazardous operations in eldery and high-risk patients.

Competence in peritoneoscopy is now a part of the better training programs in gastrointestinal surgery. Practicing clinicians may wish to acquire training in these skills to explore their potential in their practices. L. DENBESTEN, MD

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The Continent Kock Ileostomy

THE CONTINENT INTERNAL ILEOSTOMY POUCH which was introduced in 1969 by Professor Kock is an evolutionary descendant of ileocystoplastics, done by Goodwin. It is best applied in patients with true mucosal ulcerative colitis. A patient with Crohn disease who has already had an ileostomy and has shown no recurrence of the disease over the period of many years, rarely becomes a candidate for the pouch. The pouch may be created as a secondary operation or as a primary operation. To form such a pouch at the time of the original ileostomy and colectomy adds at least another hour to the operative time. A depleted patient may have healing difficulty with the complex suture lines. In 60 percent of patients with colitis, the ultimate pathological diagnosis is Crohn disease. Since roughly half of these patients were diagnosed initially as having mucosal colitis, it is incumbent upon the surgeon to be absolutely certain that he is not operating on a patient with undiagnosed and untreated Crohn disease. Treatment of a recurrence of the disease in the pouch may cost the patient unnecessary bowel loss if fistulas and other complications ensue.

The success of operation depends on the accurate placement of permanent sutures through both layers of the retroverted nipple as close to the mesentery as possible in order to prevent reduction of the nipple. Damage to the mesentery may result in ischemia of the ileum distal to this point or serious intramural hematoma. Placement of sutures too far from the mesentery may result in reduction of the nipple with concomitant incontinence and an inability to drain the pouch by catheter.

The Kock pouch is a great advance in the management of colitis. It must be applied, however, to a very carefully selected group of patients and should be done only by surgeons who truly understand the spatial relationships of the mesentery of the pouch and the nipple.

WILEY F. BARKER, MD

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Current Approaches to Evaluating Carotid Disease

ANGIOGRAPHY, the original and ultimate diagnostic technique, provides the most accurate anatomical assessment of carotid lesions. The refinements of multiple views, selective catheterization and subtraction films have greatly improved quality and reliability. However angiography is not suitable for screening or repeated follow-up.

Four different noninvasive approaches have been developed: (1) Oculopneumoplethysmography (Gee method) measures ophthalmic artery pressure indirectly. Suction applied to small scleral cups increases intraocular pressure; the systolic endpoints are detected by transducers coupled to each cup. Information concerning collaterals can be obtained using carotid compression. (2) Recording of systolic pulse arrival times at the eyes and the earlobes has been described by Kartchner, who has correlated pulse delay with significant stenosis. (3) A significant internal carotid stenosis produces decrease or reversal of ophthalmic artery flow. This can be evaluated by studying changes in flow patterns in the supraorbital or frontal arteries produced by compression of the superficial temporal or other external carotid branches. Present techniques employ a Doppler ultrasound flow meter or a photoelectric cell. (4) Two dimensional images of the carotid bifurcation can be recorded by ultrasound techniques, but at present resolution is not comparable to contrast angiography.

The first three noninvasive techniques can provide high accuracy in detecting significant stenosis (more than 50 percent reduction of lumen diameter), but are of no value with moderate lesions which may be sources of emboli. The imaging devices can show small lesions but at present do not have the resolution to identify ulceration reliably.

Angiography provides an accurate anatomic rendition of carotid lesions and should be done on all patients considered for surgical operation. Noninvasive techniques can provide additional information on the hemodynamic abnormalities. Unlike angiography, the noninvasive tests are particularly well-suited for screening, for evaluating asymptomatic bruits and for postoperative follow-up studies. With improving technology, the new approaches will have increasingly important roles in evaluation of cerebrovascular disease.

J. DENNIS BAKER, MD

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Surgical Management of Gastroesophageal Reflux in Infants and Children

IN CONTRAST to the general view that infantile chalasia is a benign, self-limited condition, gastroesophageal reflux has been recognized with increasing frequency as a pernicious cause of malnutrition, growth retardation, recurrent aspiration, esophagitis and stricture, occasional asthmatic attacks, and other previously unexplained conditions in infants and young children.

The condition is particularly common in children with neurologic disorders and has been